

What is claimed is:

1. An ejector comprising:

a nozzle in which a driving fluid flow is throttled and is accelerated by converting pressure energy to speed energy;

a housing which receives the nozzle to define a passage portion around the nozzle, the housing having a suction port from which a fluid is sucked by entrainment of a high-speed flow of driving fluid jetted from the nozzle, and a pressure increasing portion in which the fluid sucked from the suction port and the driving fluid jetted from the nozzle are mixed while a pressure of the fluid is increased by converting the speed energy to the pressure energy; and

a wall portion, which is provided in the housing, to prevent the fluid drawn from the suction port into the passage portion from flowing toward an inlet side of the nozzle from a position of the suction port in an axial direction of the nozzle,

wherein the housing has an inner wall surface for defining the suction port, and a part of the inner wall surface is positioned in the same surface as an end portion of the wall portion.

2. The ejector according to claim 1, wherein:

the suction port is opened in a direction crossing with an axial direction of the nozzle; and

the wall portion is tilted with respect to the axial direction such that a flow of the fluid flowing into the passage portion from the suction port is turned toward an outlet side of the nozzle.

3. The ejector according to claim 2, wherein the suction port is opened in a direction substantially perpendicular to the axial direction of the nozzle.

4. The ejector according to claim 1, wherein:
the suction port is opened to have an axis that is substantially parallel with a direction perpendicular to an axis of the nozzle;
and
the axis of the suction port is offset from the axis of the nozzle.

5. The ejector according to claim 1, wherein:
the suction port and the passage portion are set in such a manner that a ratio of a passage sectional area (B) of the passage portion to a passage sectional area (A) of the suction port is in a range between 1 and 2.

6. An ejector comprising:
a nozzle in which a driving fluid flow is throttled and is accelerated by converting pressure energy to speed energy; and
a housing which receives the nozzle to define a passage portion around the nozzle, the housing having a suction port from which a fluid is sucked by entrainment of a high-speed flow of driving fluid jetted from the nozzle, and a pressure increasing portion in which the fluid sucked from the suction port and the driving fluid jetted from the nozzle are mixed while a pressure of the fluid is increased by converting the speed energy to the pressure

energy, wherein:

the suction port is opened to have an axis that is substantially parallel with a direction perpendicular to an axis of the nozzle; and

the axis of the suction port is offset from the axis of the nozzle.

7. An ejector for a vapor compression refrigerant cycle in which R404A is used as refrigerant, the ejector comprising:

a nozzle in which a driving refrigerant flow is throttled and is accelerated by converting pressure energy to speed energy; and

a housing which receives the nozzle to define a refrigerant passage portion around the nozzle, the housing having a suction port from which a refrigerant is sucked by entrainment of a high-speed flow of driving refrigerant jetted from the nozzle, and a pressure increasing portion in which the refrigerant sucked from the suction port and the driving refrigerant jetted from the nozzle are mixed while a pressure of the refrigerant is increased by converting the speed energy to the pressure energy,

wherein a ratio of a passage sectional area (B) of the refrigerant passage portion to a passage sectional area (A) of the suction port is in a range between 1 and 2.

8. The ejector according to claim 7, wherein the ratio of the passage sectional area (B) of the refrigerant passage portion to the passage sectional area (A) of the suction port is in a range

between 1 and 1.8.

9. The ejector according to claim 8, wherein the ratio of the passage sectional area (B) of the refrigerant passage portion to the passage sectional area (A) of the suction port is in a range between 1.2 and 1.5.